

Technical feasibility of using forest biomass for energy



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Teacher: Technical feasibility of using forest biomass for energy Biomass energy contributes much to the renewable energy. Biomass energy has a great potential and it can be converted to any other form of energy. Forests are the biggest source of biomass. Direct burning of wood produces green house gasses emissions which are dangerous for the humans and environment. The climate of the earth is warming up by the emissions of green house gasses, melting of the glaciers and thus results in the rise of water level of sea. If the use of the fossil fuel is not slowed then the day is not far when there would be no life on earth.

Woody feedstock can be utilized to generate power and useful heat energy. Wood pellets are considered as a renewable energy source as it has low moisture content and give a great amount of thermal energy by a controlled combustion. According to the article " Wood to Energy: Use of the Forest Biomass for Wood Pellets" (2009), the writer states " Harvesting debris or logging residues such as tops, limbs, and roots, and forest understory are promising feedstock alternatives for wood pellets". Forest's raw wood and wood from the sustainably managed forests can be utilized to produce wood pellets, which can be burnt on a small or large scale to produce energy (TheBioenergySite. com 2009). In the article " Sustainable Forest Biomass: Promoting Renewable Energy and Forest Stewardship", Caputo (2009) writes " In fact, improved markets for woody biomass have potential to reduce costs associated with hazardous fuels reduction, wildlife habitat management, ecosystem restoration, and other proactive stewardship activities" (Caputo 2009). Today the feedstock used for the production of pellets comes from pulpwood chips. Logging residues can be a feedstock for the wood pellets (TheBioenergySite. com 2009). Because the smaller size of <https://assignbuster.com/technical-feasibility-of-using-forest-biomass-for-energy/>

a pellet, it can be burnt easily and the residue could be utilized as a fertilizer. The residue which is a charcoal is mixed with soil to increase the water holding capacity of the soil. The produced large amount of energy can be utilized generate large amount power. The main factor that is associated with the wood pallets is that the controlled combustion of the wood pellets costs less as compared to any other conversion. Wood pallets can be gasified to produce synthetic gas which can be a simple process. The wood pallets are heated at a certain temperature. The heating of the wood pallets gives wood gas that is highly combustible gas and is capable of replacing natural gas. The wood gas can be utilized to produce steam in the power generation system.

Biomass is a great source of energy. Biomass energy is capable of providing us with our all needs of energy. There is a high amount of energy stored in the wood pallets and it can be used to fulfill our energy need. We should utilize them as a source of energy and combust it in a controlled combustion chamber to reduce the green house emissions.

Works Cited

Caputo, Jesse. Sustainable Forest Biomass: Promoting Renewable Energy and Forest Stewardship. Environmental and Energy institute: Policy paper, July 2009. Retrieved on 8th April 2011 from http://www.eesi.org/files/eesi_sustforbio_final_070609.pdf

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